EL series

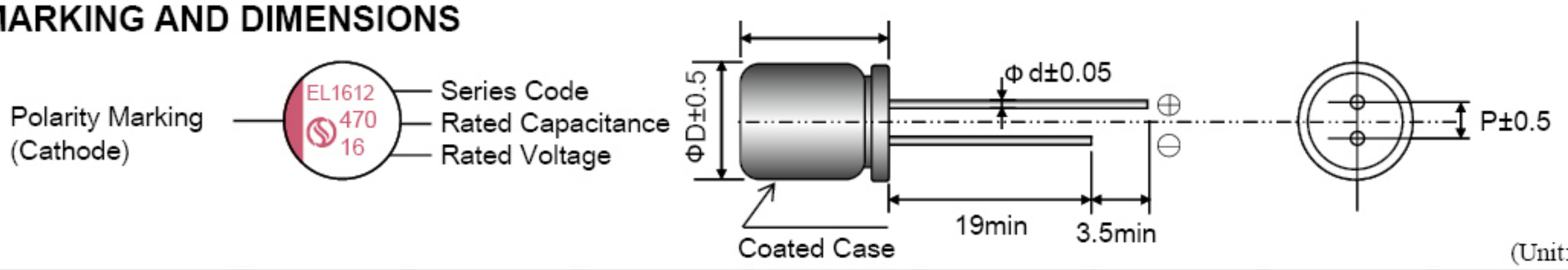
- Super low ESR, High ripple current capability
- Rated voltage : 2.5~50V
- Endurance : 5,000 hours at 105℃
- Applications : Servers, LCD-TV power, Inverter, etc.
- RoHS Compliance.
- Halogen Free compliant

SPECIFICATIONS

Items	Conditions	Characteristics	
Category Temperature Range	—	-55 to +105℃	
Rated Voltage Range	—	2.5 ~ 50V	
Capacitance Tolerance	at 20℃, 120 Hz	±20% (M)	
Surge Voltage	at 105℃	Rated voltage x 1.15v	
Leakage Current	at 20℃ after 2 minutes	I≦0.2CV or 300(μA) Whichever is greater measured,after 2minutes application of rated working voltage at +20℃.Please see the attached characteristics list	
Dissipation Factor (tan δ)	at 20℃, 120 Hz	Please see the attached characteristics list	
Characteristics of Impedance at low, high temperature	at -55℃,100kHz	Z(-55℃) / Z(+20℃)	≦ 1.25
	at -25℃,100kHz	Z(-25℃)/Z(+20℃)	≦ 1.15
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20℃after the rated voltage is applied for 5,000 hours at 105℃.	Appearance	NO significant damage.
		Capacitance change	≦ ±20% of the initial value.
		DF (tan δ)	≦ 150% of the initial specified value.
		ESR	≦ 150% of the initial specified value.
		Leakage current	≦ The initial specified value.
Damp Heag (Steady State)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after subjecting them to subjecting them to store at 60℃, 90 to 95% RH for 1,000 hours ,without DC applied.	Appearance	NO significant damage.
		Capacitance change	≦ ±20% of the initial value.
		DF (tan δ)	≦ 150% of the initial specified value.
		ESR	≦ 150% of the initial specified value.
		Leakage current	≦ The initial specified value.
Surge Voltage	The capacitors shall be subjected to 1,000 cycles each consisting of charge with the surge voltages specified at 105℃ for 30 seconds through aprotective resistor (R=1kΩ) and discharge for 5 minutes 30seconds	Appearance	NO significant damage.
		Capacitance change	≦ ±20% of the initial value.
		DF (tan δ)	≦ 150% of the initial specified value.
		ESR	≦ 150% of the initial specified value.
		Leakage current	≦ The initial specified value.

※ Note : If any doubt arises, measure the leakage current after following voltage treatment.
Voltage treatment : DC rated voltage are applied to the capacitors for 120 minutes at 105℃.

MARKING AND DIMENSIONS



(Unit:mm)

Size	5X7	6.3×6	6.3×8	6.3×9	8×8	8×12	10×10	10×12
φ D	5	6.3	6.3	6.3	8	8	10	10
L	L+1.0 max	L+1.0 max	L+1.5 max	L+1.5 max	L+1.5 max	L+1.0 max	L+1.0 max	L+1.0 max
φ d	0.45	0.45	0.5	0.5	0.5	0.6	0.6	0.6
P	2	2.5	2.5	2.5	2.5	3.5	5.0	5.0

EL SERIES STANDARD CHARACTERISITICS LIST

Rated Voltage (S.V.)	Cap (μF)	Size DxL	Leakage current (μA) max. ※2	ESR(mΩ) max. 100k to 300kHz / 20°C	Rated Ripple Current (mA rms)100kHz / 105°C	D.F. (tanδ) max. 120Hz / 20°C
2.5 (2.9)	560	6.3×8	300	7	5000	0.10
	560	8×8	300	7	5,700	0.12
	820	6.3×8	410	7	5000	0.10
	820	8×8	410	7	5,700	0.12
	1200	8×8	600	15	5,700	0.12
	1500	8×12	750	12	5,800	0.12
	2,700	10×12	1,350	12	6,100	0.12
4 (4.6)	150	5×7	300	20	1.500	0.10
	220	5×7	300	20	1.500	0.10
	220	6.3×6	300	35	2,000	0.12
	560	6.3×8	448	20	5,000	0.12
	1000	8×8	800	15	3,640	0.12
	1200	10×10	960	10	5,200	0.12
	1800	8×12	1,440	10	5,200	0.12
	2,200	10×12	1,760	10	5,500	0.12
6.3 (7.2)	100	6.3×6	300	35	2,000	0.12
	220	6.3×6	300	35	2,000	0.12
	330	6.3×8	415	20	2,000	0.12
	470	6.3×8	592	20	2,000	0.12
	560	8×8	705	15	3,640	0.12
	680	8×8	856	15	3,640	0.12
	1000	8×12	1,260	10	5,000	0.12
	1,000	8×12	1,260	10	5,500	0.12
	1,200	10×10	1,512	10	5,500	0.12
	1,800	10×12	2,268	10	5,500	0.12
10 (11.5)	100	6.3×6	300	20	2,000	0.12
	330	6.3×8	660	20	2,000	0.12
	560	8×8	1,120	15	3,000	0.12
	680	8×12	1,360	15	4,500	0.12
	1000	10×10	2,000	10	4,500	0.12
	1200	10×12	2,400	10	5,500	0.12
16 (18.4)	82	6.3×6	300	24	2.400	0.12
	100	6.3×6	300	24	2.400	0.12
	220	6.3×8	704	24	2.400	0.12
	330	8×8	1056	15	4000	0.12
	470	8×12	1504	15	4500	0.12
	820	10×12	2624	15	4720	0.12
	1000	10×12	3200	15	4720	0.12
25 (28.75)	47	6.3×6	300	40	1500	0.12
	100	6.3×8	500	40	2100	0.12
	180	8×8	900	30	2100	0.12
	220	8×12	1100	30	2300	0.12
	330	10×10	1650	25	2500	0.12
	330	10×12	1650	20	2500	0.12
	470	10×12	2350	25	2800	0.12
35 (40.25)	22	6.3×6	300	70	1450	0.12
	68	6.3×8	476	60	1450	0.12
	100	8×8	700	50	2100	0.12
	120	8×8	840	50	2100	0.12
	150	8×12	1050	50	2100	0.12
	220	10×10	1540	40	2500	0.12
	270	10×12	1890	40	2500	0.12
	330	10×12	2310	40	2500	0.12

EL SERIES STANDARD CHARACTERISITICS LIST

Rated Voltage (S.V.)	Cap (μF)	Size DxL	Leakage current (μA) max. ※2	ESR (mΩ) max. 100k to 300kHz / 20℃	Rated Ripple Current (mA rms)100kHz / 105℃	D.F. (tanδ) max. 120Hz / 20℃
50 (57.5)	12	6.3×6	300	100	660	0.12
	33	6.3x9	330	50	900	0.12
	47	8x8	470	45	1,850	0.12
	100	10x12	1,000	28	2,560	0.12
	180	10x12	1,800	28	2,560	0.12
63 (72.5)	22	6.3×9	300	65	1,350	0.12
	33	8×8	415	40	1,600	0.12
	47	8×12	592	38	2,100	0.12
	56	10×10	705	38	2,100	0.12
	82	10×12	1,033	26	2,500	0.12
	100	10×12	1,260	26	2,550	0.12
	180	10×16	2,268	22	3,200	0.12

※ 1. Capacitance tolerance : ±20% (M)
※ 2. After 2 minutes

FREQUENCY COEFFICIENT FOR RIPPLE CURRENT

Frequency	120Hz ≦ f < 1kHz	1kHz ≦ f < 10kHz	10kHz ≦ f < 100kHz	100kHz ≦ f < 500kHz
Coefficient	0.05	0.30	0.70	1.00